To Save People from "Too Much Hurry"

Grade Crossing Protection and Elimination More Necessary Than Railroad Train Control

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THE trouble with us Americans is that we are in too much of a hurry.

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The automobile is with us and it has come to stay. While the rabbit is a wonderful breeder, he has nothing on the automobile industry. There are more than 14,000,000 automobiles in the country today.

I am going to speak about train control because it has a very considerable bearing on the proposition of the automatic train stop versus grade crossing protection.

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The Pennsylvania Railroad System in 1921 killed two passengers in train accidents; in 1922 it killed six, five of them in one accident—it was a collision on a road that had been recently taken over and had no block system. Last year they didn't kill one. In that time, three years, eight passengers killed—but 711 people were killed at highway crossings.

That, we are to suppose, is an absolute proof of the necessity of the automatic train stop.

In 1922 there were 11,000 deaths in the United States from automobile accidents. In 1922 the railroads killed in collisions 72 passengers.

In 1923 150 people were killed while hunting in the State of Pennsylvania.

All of which leads us to the absolutely unescapable conclusion that we need a train stop.

Here is a little item dated February 10, 1924, from the *Philadelphia Ledger*.

> "Thirteen killed on State roads, 81 others injured in auto accidents during January. Carelessness of automobilists on roads where conditions are **least hazardous** caused most of the 104 accidents on the State highways reported to the State Highway Department during January."

Railroads got four out of the 104, and six ran into the sides of culverts.

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The Pennsylvania Railroad has been ordered to install in the first year three divisions of train control which will cost in the neighborhood of $6,000,000. To equip our system with train control would cost $115,000,000.

For this sum we can protect 57,000 crossings with flashing lights indicating the approach of the train, the new signal recommended by the Signal Section.

We have only 14,000 to protect, which means that we could protect them all and still have $80,000,000 left for separation of grades, if we didn't have to put in train control —and if we had the money.

One of the western papers says:

> "Three big railroad systems went through 1923 without killing a single passenger. They make a roll of honor to be read everywhere with respect."

The first of them is the Santa Fe that hadn't killed a passenger for more than a year and a half, during which time it has carried 16,000,000 people an average of 152 miles. In 1922 they killed 27; in 1923, 38, a total of 65, at grade crossings. The Chicago, Milwaukee & St. Paul has operated four years without passenger fatality. In 1922 and 1923 they killed 23 each year, or 46, on grade crossings. The Northwestern hadn't killed a passenger in two years. During that time they killed 54 and injured 155 at grade crossings.

There is no need of reading all the statistics available. They are all

the same thing, thousands at grade crossings, less than 100 in collision.

The recent order of the Commission requires an expediture which I think conservatively may be estimated at over $200,000,000 for putting in train control on 141 divisions.

What could you do with that $200,000,000 in the way of grade crossing protection and elimination if you had it to spend? * * *

We all presume that grade crossing elimination is the answer. It isn't entirely. We have had accident after accident since we put the highway over the railroad. Drivers run off curved approaches and getting on to the tracks, we hit them. If we put the grade crossing underneath, they run into the abutment.

Our statistics show that only three per cent of the drivers are reckless. It is stated by our prominent occulists and opticians that four per cent of the male population of the United States is color blind.

There is hardly ever a color blind woman. It is fair to state that perhaps nearly one-quarter of the total number of cars are driven by women. If one-quarter of the cars are driven by

women, this would dilute the color blindness to three per cent. Three per cent of the drivers are reckless. I don't know whether there is any relationship between the two, but it is worth thinking about.

Now, the first method of attack, as I see it, to eliminate this terrible slaughter at grade crossings, is to eliminate careless, incompetent and unfit drivers.

Our enginemen run trains. The average speed of trains certainly is not much over 50 miles an hour—and they run on tracks, so that they don't have to steer, and their eyes are examined for acuity and color perception; they are examined for heart trouble, high blood pressure, and heaven knows what else. What we most dread are Bright's disease and apoplexy. And then we "efficiency-test" them.

How many enginemen in the course of a year are suspended for poking their nose by a stop signal? How many tests are made?

How many automobilists are examined for physical defects which may cause them to lose control at a critical moment when they are not fit to drive at all? How many are checked up by the highway people on stopping at the

proper places or slowing down at the proper places? Not one!

There are laws in some states now requiring automobiles to stop before they go over the crossing. I understand there is an effort being made in Virginia now to repeal that law as burdensome to the drivers of the automobile. An automobile driver is likely to lose five or six seconds versus a life, and I guess in a good many cases, the five or six seconds are more valuable.

The proposition is that we are killing these people all the time, or letting them kill themselves, and then they object to stopping before they cross the railroad. There is an effort to repeal that Virginia bill, and then to force the railroads to place a watchman on each crossing 24 hours a day.

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It seems to me that we can do good if we want to, by advocating a stringent examination of the men who imperil our lives on the highway and imperil their own and the people that drive with them at grade crossings—yes, by insisting on a stringent examination.

The thing to do, it seems to me, in the first place, to eliminate a

large percentage of this trouble, is to make a rigid examination—an examination and re-examination, not as severe as we give our enginemen, but a real examination, and every time a man scratches the paint on another car, or even on his own, give him a re-examination.

As a member of a sub-committee of the American Engineering Standards Committee I have been advocating for a long time yellow tail lights on automobiles, but had to give it up because there are 14,000,000 cars that have red ones. The laws of all the states require it.

The reason I advocated yellow tail lights was because during the time we had our safety-first campaign last year, 222 of our gates were run through. I don't know how many trains were run into.

I do know that in one instance they stopped a train on the crossing on the Northern Pacific, and while they were standing there a Ford ran into the left hand side. While they were cleaning up the wreck, a Buick ran into the right hand side.

Of the 222 gates "busted," 60 per cent of them were in the day time. Of

the other 40 per cent, 95 per cent were broken to the left of the red light on the gates. Now, what is the answer? That the red light on an automobile means turn to the left instead of stop, and that is what these drivers did.

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One recommendation our sub-committee made has a large bearing on train accidents and on automobile accidents. We recommended that the head lights of automobiles, instead of being white lights concentrated on the spot in the road, be yellow and diffused so that instead of driving practically through a dark tunnel, watching a white light in front, the eye might function more as it functions in the daylight.

For three reasons: First, the man coming in the opposite direction is blinded by the brilliant headlight. You all know the number of accidents to pedestrians and others on account of that blinding effect.

The second reason is that the white light will not penetrate fog because the blue rays of the white light reflect back from the fog particles, while the yellow rays do penetrate.

And the third is the hypnotic effect on the driver sitting back of those

bright lights. There is a very good chance, I believe, that many of the accidents we have had from men disregarding signals have been due to hypnotism.

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Now, if we agree that one way to reduce these accidents is by stricter laws, by enforcing them, by rigid examination and re-examination, and the elimination of drunken drivers, and so forth, then comes the problem of the people who are good drivers, that are careful, that are fit, and that are cool and that get killed.

There are two ways. One is actual protection by indicating the approach of a train, or by other means; the other is grade crossing elimination.

As most of you know, years ago the American Railway Association recommended a disc with a cross on it, and the letters "R. R." as an approach sign. Fifteen or 20 states have provided for these signs. In some states the railroad furnishes them, and in some states the states do so. In most states the state puts them up. It has been a big help to tourists, to automobile drivers generally.

In the old days a man did not drive very far—I suppose the radius was about 50 miles. People very seldom drove further than that away from home. Now they go two or three thousand. You see California licenses and Connecticut licenses in the summer time in almost every state.

They come to a crossing which they have no idea they are approaching until it is half a mile behind them. And if they miss the train they thank God, and if they don't they meet Him.

Almost universally the red light is used on the crossing gate against team traffic, but there are exceptions.

We are trying to get the red lights standardized; the stop sign which is pretty generally adopted—the red light on the gate.

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Within the last three years, the signal section of the American Railway Association was assigned the job of designing an automatic signal to indicate the approach of the train which would be distinctive.

We had many different kinds of signals—two vertical lights, steady burning, that were used on the Pennsylvania. We had the single flashing up on the New Haven, and which was

also installed on the Long Island. All through the west they have wigwags; they have a disc which swings and shows a red light at night. Another signal was a group of lights lighting in series to indicate a red lantern swinging.

We decided absolutely against the bell. It is the poorest thing that was ever invented. It rings when it should not and does not ring when it should, and both ways. If it is loud, the neighbors put sticks in it, and if it is quiet the automobile drivers do not hear it. So that was eliminated.

The western fellows would not give up the wigwag. The eastern fellows concurred. Many of them wanted a device without any moving parts, that would be easily maintained and would be so reliable that it wouldn't lie to the drivers.

We finally compromised on a signal which has the appearance of a horizontally swinging red light and/or disc.

Fifteen or 20 public service commissions have approved it. And we are trying to get it perfected. We cannot patent it because it was invented by a syndicate—that is, a committee. We cannot copyright it because we are told

by the powers at Washington that it is not a work of art, although we claim it is. But we can use it because it doesn't infringe any known patent, as far as the principle of the flash is concerned.

Now, what we want to do is to protect it by a Federal law that will forbid its use anywhere except at railroads to indicate the approach of trains, just the same, I understand, as the red cross is protected. It is unlawful to use that except for certain purposes.

If we can concentrate or consecrate these to one particular use, of indicating the approach of a train, we will have made a long step forward.

An ordinary crossing can be protected for from $2,000 to $2,500. There are many places where you cannot use it. I doubt if it is a good thing to use it on a four-track railroad now, but it can be used to great advantage in thousands and thousands of cases.

That means for $2,000,000 you can protect 1,000 crossings.

That is what it costs to equip one division with train control, which would save an average of one life every 10 years as against 25 or 30 on the highway crossing.

That is the first step, installing those, if we can get the money.

There is no reason why the highway department should not put up signs and share in the cost of protection, just as they put up signs for heavy grades, for sharp curves and for street intersections. There is just as much reason for them to share in the policing of highways crossing railroads as there is for them to pay the whole cost of policing highway crossings, because here is where one of the big dangers lies.

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My thought is this: The Public Service Commissions and the Interstate Commerce Commission should be given jurisdiction over the highway crossing just as they have over the train accidents.

Any time anybody was killed, I would have them investigate it just as they do a collision, and I would have them fix the blame and give it just as much publicity as they do a train accident that may happen once a year, so that the people at large might know the proportion of accidents.

Then I would insist that at the end of the report they be required to put

in a clause which reads: "This accident again points to the necessity of the installation of some system of stop or control of automobiles."

Let us get the control. Instead of on the train, put it on the automobile.

So that whenever an automobile approaches a crossing where there is a train coming, it must stop, and it must slow down at dangerous places, and I think perhaps we could extend it eventually so that if there was a fellow walking across the street, the car would stop.

We have to stop railroad trains on grade crossing with other roads, unless properly signalled. It costs money to stop a train and it costs money to start it, but that is the law, that the train must stop at the crossing, whether any train is coming or not, before proceeding over.

In fact out in Kansas a short time ago, they went further than that. A bill was introduced and went through both Houses, and was vetoed by the Governor. That bill provided that at a grade crossing, when two trains were approaching at the same time, both trains must stop, and neither must pro-

ceed until the other had been over the crossing. And that is a fair sample of some of the legislation we are getting.

Now, I would like to sum up.

The orders of the Interstate Commerce Commission call for millions of dollars—hundreds of millions of dollars for a device that still is in the experimental stage, when the money could be spent to many times better advantage in protecting grade crossings.

This train control idea is beautiful. It is the greatest thing you ever saw from an engineering standpoint. It will do everything but talk, and a few other things, but it is an economic crime as the matter stands today.

The remedy, as I see it, depends upon public opinion organized to make it effective.

First. Drastic examination of all drivers.

Second. Drastic enforcement of laws and rules of road.

Third. Participation of national, state and municipal governments in the expense of (a) marking and protecting existing crossings, and (b) elimination of crossings or separation of grades.

Fourth. Action by such authorities to insure uniform and standardized indications of dangerous conditions.

Fifth. The prohibtion of any new grade crossings over tracks where trains are run at speed.

Sixth. Elimination of the tremendous economic waste, in view of the comparatively small saving of life attained, which will result if the Interstate Commerce Commission continues to insist on the wholesale installation of experimental or inadequate train control.

Seventh. As all or at any rate most of these depend upon public opinion, the people should be educated, and I have already informed you how I think they ought to be educated by the Commission.

The only kind of accident this train control or automatic stop prevents is a collision. It won't prevent a train hitting an automobile.

Train control is an irridescent dream, and grade crossing accidents a nightmare.

Now, we would all prefer the dream if it wasn't for the nightmare, but I think we have to get rid of the nightmare before we can start dreaming.

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